



1 FIRE SPRINKLER REFERENCE SITE PLAN
SCALE: 1" = 20'

KEY NOTES

- 1 8" CITY MAIN
- 2 FIRE SPRINKLER RISER
- 3 10" ELECTRIC BELL
- 4 6" STUB FOR FUTURE FIRE LINE CONNECTION

SCOPE OF WORK

INSTALL NEW WET PIPE FIRE SPRINKLER SYSTEM IN NEW VETERANS ADMINISTRATION MENTAL HEALTH CENTER. WORK TO BEGIN 5'-0" FROM OUTSIDE FACE OF WALL.

OWNER:
US DEPT. OF VETERANS AFFAIRS

CODE ANALYSIS:
TOTAL BUILDING AREA: 14,500 SQ. FT.
BUILDING HEIGHT: 35'-0"
CONSTRUCTION TYPE: II-B
OCCUPANCY TYPE: B - OUTPATIENT CLINIC AND OFFICES

FIRE PROTECTION SHEET INDEX

SHEET NO.	SHEET TITLE
FP001	FIRE SPRINKLER SITE PLAN, NOTES
FP210	FIRST FLOOR FIRE SPRINKLER PIPING PLAN
FP211	FIRST FLOOR FIRE SPRINKLER PIPING PLAN (DEDUCTIVE ALTERNATE #3)
FP220	SECOND FLOOR FIRE SPRINKLER PIPING PLAN
FP221	SECOND FLOOR FIRE SPRINKLER PIPING PLAN (DEDUCTIVE ALTERNATE #3)
FP310	FIRST FLOOR FIRE SPRINKLER REFLECTED CEILING PLAN
FP311	FIRST FLOOR FIRE SPRINKLER REFLECTED CEILING PLAN (DEDUCTIVE ALTERNATE #3)
FP320	SECOND FLOOR FIRE SPRINKLER REFLECTED CEILING PLAN
FP321	SECOND FLOOR FIRE SPRINKLER REFLECTED CEILING PLAN (DEDUCTIVE ALTERNATE #3)
FP410	FIRE SPRINKLER DETAILS & BUILDING CROSS SECTION

FIRE PROTECTION NOTES

- ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE INSPECTION AUTHORITY. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THIS PROJECT.
 - A. CALIFORNIA FIRE CODE, 2010
 - B. NFPA-13, 2010
 - C. NFPA-14, 2010
 - D. CITY OF FRESNO FIRE DEPARTMENT
 - E. CALIFORNIA BUILDING CODE - 2010
 - F. CALIFORNIA MECHANICAL CODE - 2010
 - G. CALIFORNIA PLUMBING CODE - 2010
 - H. CALIFORNIA ELECTRICAL CODE - 2010
 - I. STATE OF CALIFORNIA ENERGY CONSERVATION REGULATIONS, TITLE 24 - 2010
 - J. NATIONAL FIRE PROTECTION ASSOCIATION
 - K. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
- SEISMIC RESTRAINT. ALL HUNG PIPING SHALL CONFORM TO THE FOLLOWING CONDITIONS AND THEREFORE, SEISMIC RESTRAINTS MAY BE OMITTED ACCORDING TO SECTION 1632A.6 OF THE 2010 CBC:
 - A. ALL OTHER PIPING 2-1/2" AND LARGER MUST BE SUSPENDED BY INDIVIDUAL HANGERS 6" OR LESS IN LENGTH FROM THE TOP OF PIPE TO THE BOTTOM OF THE ATTACHMENT TO STRUCTURE.
 - B. NO TRAPEZE ASSEMBLIES SHALL BE USED TO SUPPORT PIPES OR DUCTS.
 - C. WHERE LATERAL RESTRAINTS ARE OMITTED, PIPING SHALL BE INSTALLED SUCH THAT LATERAL MOTION OF THE PIPING WILL NOT CAUSE DAMAGING IMPACT WITH OTHER SYSTEMS OR STRUCTURAL MEMBERS, OR LOSS OF VERTICAL SUPPORT.IF AT THE CONTRACTOR'S OPTION, PIPING IS NOT INSTALLED IN CONFORMANCE WITH THESE CONDITIONS, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (1/4" = 1'-0" SCALE) OF SEISMIC BRACING SYSTEM IN ACCORDANCE WITH MASON INDUSTRIES' SEISMIC RESTRAINTS GUIDELINES FOR SUSPENDING PIPING AND DUCTWORK (OR APPROVED EQUAL) TO THE ARCHITECT FOR APPROVAL.
- THE CONTRACTOR SHALL SURVEY EXISTING FIELD CONDITIONS PRIOR TO BIDDING. IF AWARDED THE CONTRACT, THE CONTRACTOR SHALL SURVEY EXISTING FIELD CONDITIONS IN DETAIL AND COORDINATE THE WORK WITH BUILDING SYSTEMS AND THE WORK OF OTHER TRADES.
- ANY DAMAGE TO NEW BUILDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL SYSTEMS THAT OCCURS DURING THE WORK SHALL BE RESTORED TO THE ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. IF LANDSCAPED AREAS INCLUDING NATURAL SPACES MUST BE USED FOR BUILDING ACCESS, THE LANDSCAPING SHALL BE RETURNED TO ITS ORIGINAL CONDITION. THE CONTRACTOR SHALL INCLUDE COSTS IN THE BID FOR THIS WORK IF THIS APPROACH IS USED. THE OWNER WILL NOT PAY ANY ADDITIONAL COSTS TO COVER DAMAGE TO THE BUILDING SYSTEMS, LANDSCAPING OR DRIVE AREAS.
- COORDINATE THE FOLLOWING WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND ELEMENTS AS INSTALLED, INCLUDING EXISTING BUILDING SYSTEMS:
 - A. EXACT LOCATION OF ALL EQUIPMENT.
 - B. ALL PENETRATIONS THRU ROOF, WALLS AND FLOORS.
 - C. EXACT SIZE AND ROUTING OF PIPING.
- DRAWINGS INDICATE DIAGRAMMATICALLY THE ARRANGEMENT OF PRINCIPAL APPARATUS, PIPING, AND OTHER MATERIAL. FOLLOW DRAWING AS CLOSELY AS POSSIBLE, IN ORDER TO ACHIEVE A NEAT ARRANGEMENT OF PIPING AND EQUIPMENT WHILE STILL OVERCOMING OBSTRUCTIONS.
- INSTALLATION OF THE SPRINKLER SYSTEM SHALL NOT BE STARTED UNTIL COMPLETE PLANS AND SPECIFICATIONS, INCLUDING WATER SUPPLY INFORMATION, HAVE BEEN APPROVED BY THE AHJ, AT VARIOUS STAGES AND UPON COMPLETION THE SYSTEM MUST BE TESTED IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.
- ALL EXISTING FIRE PROTECTION SYSTEMS SHALL REMAIN IN OPERATION DURING ALL PHASES OF CONSTRUCTION. NO SYSTEMS ARE TO BE SHUT DOWN WITHOUT AUTHORIZATION FROM THE OWNER AND LOCAL FIRE DISTRICT.
- THE LOCATION OF FIRE SPRINKLER HEADS SHALL BE COORDINATED WITH THE NEW CEILING LAYOUTS AND ALL OTHER TRADES FOR COMPLETE FIRE PROTECTION COVERAGE OF ALL AREAS. PROVIDE DETAILED PLANS FOR APPROVAL PRIOR TO INSTALLATION.
- HEADS SHALL BE SYMMETRICALLY LOCATED IN CENTER OF CEILING PANELS. COORDINATE LAYOUT WITH CEILING OR SOFFIT LIGHT FIXTURES, AND HVAC DIFFUSERS, RETURNS, ETC. PROVIDE PENDENT AND/OR UPRIGHT TYPE SPRINKLER HEAD WHERE REQUIRED.
- WORKMANSHIP:
 - ALL WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER ACCORDING TO THE BEST TRADE PRACTICE BY THOSE SKILLED IN THE PARTICULAR TRADE.
 - PIPES, EQUIPMENT, ETC., TO BE INSTALLED LEVEL, SQUARE OR CENTERED, ETC., TO GIVE A NEAT AND PLEASING APPEARANCE. ALL EQUIPMENT IS TO BE INSTALLED STRICTLY PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL WORK WITH OTHER TRADES.
- THE ANNUAL SPACE BETWEEN PIPE SLEEVES AND THE PIPE THROUGH ALL RATED WALLS AND FLOORS SHALL BE FIRESTOPPED. FIRESTOPPING OF ALL PIPE PENETRATIONS SHALL COMPLY WITH U.L. REQUIREMENTS. MANUFACTURER FIRE-APPROVED UL PENETRATION FOR PIPE MATERIAL AND SURFACE PENETRATED SHALL BE USED. PENETRATIONS SHALL BE 3M PROSET, OR APPROVED EQUAL. SUBMIT SHOP DRAWINGS.
- BY OTHERS:
 - D. ELECTRICAL CONTRACTOR: ALL POWER AND ALARM WIRING, CONDUITS, DISCONNECTS, AND FINAL CONNECTIONS. NO FIELD SUPPLIED ELECTRICAL DEVICE SHALL BE MOUNTED ON PIPING AND NO RIGID ELECTRICAL CONNECTIONS SHALL BE MADE.
 - E. GENERAL CONTRACTOR: CUTTING, FRAMING, PATCHING, FURRING, AND PAINTING.
- WARRANTY:
 - ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL FIRE PROTECTION ELECTRICAL AND WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY LEAKS AND/OR BREAKS IN PIPES AND FIXTURES INSTALLED UNDER THIS CONTRACT.
- IT IS THE INTENTION OF THE PLANS AND SPECIFICATIONS TO COVER ALL THINGS REQUIRED TO PROVIDE COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSIDERED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER SPECIFICALLY SHOWN OR MENTIONED. THE ENGINEER WILL GIVE ANY INTERPRETATIONS NECESSARY FOR THE CONTRACTOR TO PROPERLY ESTIMATE THE JOB.
- FIRE SPRINKLER CONTRACTOR IS TO VERIFY WATER SUPPLY PRIOR TO PREPARATION OF SHOP DRAWINGS OR HYDRAULIC CALCULATIONS. SYSTEM PIPE SIZE, PER CONTRACT DOCUMENTS, IS NOT TO BE ADJUSTED LOWER.
- CONTRACTOR IS TO PREPARE SHOP DRAWINGS AND FABRICATION DRAWINGS. ALL PLANS, MATERIAL DATA, HYDRAULIC CALCULATIONS AND SEISMIC BRACE CALCULATIONS ARE TO BE SUBMITTED TO LP CONSULTING ENGINEERS, INC. FOR REVIEW PRIOR TO FABRICATION OR INSTALLATION OF FIRE SPRINKLER SYSTEM.

GENERAL NOTES

- THE FIRE SPRINKLER SYSTEM IS A DESIGN BUILD COMPONENT. THESE PLANS ARE FOR REFERENCE ONLY TO ADDRESS THE SCOPE OF WORK. THE SYSTEM DESIGN AND INSTALLATION SHALL COMPLY WITH DEPARTMENT OF VETERANS AFFAIRS STANDARDS, NFPA 13, 2010 EDITION, AND THE CITY OF FRESNO FIRE DEPARTMENT REQUIREMENTS.
- SYSTEM HYDRAULIC DESIGN IS FOR LIGHT HAZARD OCCUPANCY.
- WATER SUPPLY INFORMATION: STATIC - 45 PSI, RESIDUAL - 35 PSI, FLOW - 1800 GPM.
- ALL THREADED PIPE 2" AND SMALLER SHALL BE SCHEDULE 40, BLACK STEEL ANSI/ASTM A106.
- ALL GROOVED AND WELDED PIPE 2-1/2" - 6" SHALL BE SCHEDULE 10, BLACK STEEL ANSI/ASTM A733.
- THREADED FITTINGS SHALL BE CLASS 125 THREADED CAST IRON ANSI B16.4.
- ALL THREADED PIPE AND FITTINGS SHALL HAVE THREADS CUT TO ANSI/ASME STANDARD B1.20.1.
- ALL PIPE WELDING SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF AWS D10.9 (STANDARD FOR BUILDING SERVICE PIPING), LEVEL AR-3.
- ALL PIPE SHALL BE EARTHQUAKE BRACED AS OUTLINED IN NFPA 13, 2010 EDITION, SECTION 9.3.
- ALL HANGER COMPONENTS AND INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION, SECTION 9.1 AND 9.2.
- ELECTRICAL WIRING TO BE BY ELECTRICAL CONTRACTOR.
- ALL EXPOSED FIRE SPRINKLER PIPING IS TO BE PAINTED RED. ANY PAINTING OF THE PIPE THAT MAY BE REQUIRED SHALL BE BY PAINTING CONTRACTOR.
- ALL NEW PIPING IS TO BE HYDROSTATICALLY TESTED TO CODE FOR A PERIOD NOT LESS THAN TWO HOURS.
- FLOW AND TAMPER SWITCHES ARE TO BE PROVIDED ON THE FIRE SPRINKLER SYSTEM. ALL ELECTRICAL WIRING TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
- MAIN FIRE PANEL, VALVE MONITORING, WATER FLOW ALARM AND TROUBLE SIGNALS SHALL BE DISTINCTLY DIFFERENT AND SHALL BE FULLY INTEGRATED INTO THE VA'S EXISTING ALARM SYSTEM.

OVERHEAD FIRE SPRINKLER NOTES

- NFPA 13 (2010) SEC. 10.10.2.1 UNDERGROUND MAINS AND LEAD-IN CONNECTIONS TO SYSTEM RISERS SHALL BE COMPLETELY FLUSHED BEFORE CONNECTION IS MADE TO THE OVERHEAD FIRE SPRINKLER PIPING SYSTEM. (WITNESSED BY THE RESIDENT ENGINEER AS DETERMINED BY THE DEPARTMENT OF VETERANS AFFAIRS.)
- NFPA 13 (2010) SEC. 9.3.4.2 CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING EXTENDING THROUGH WALLS, FLOORS, PLATFORS AND FOUNDATIONS INCLUDING DRAINS SUCH THAT THE DIAMETER OF THE HOLES IS 2 INCHES LARGER THAN THE PIPE FOR 1 INCH TO 2-1/2 INCH NOMINAL AND 4 INCHES LARGER THAN THE PIPE FOR PIPE 4 INCH NOMINAL AND LARGER.
- NFPA 13 (2010) SEC. 24.2.1 ALL INTERIOR PIPING AND APPURTENANCES SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATICALLY TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 2 HOURS. (WITNESSED BY THE INSPECTOR OF RECORD AND VA COR.)
- NFPA 13 (2010) SEC. 6.2.3.5 PROVIDE SPARE SPRINKLER HEAD CABINET, WRENCH, AND NO FEWER THAN A TOTAL OF 6 SPARE SPRINKLER HEADS MATCHING THE TYPES AND TEMPERATURE RATINGS IN EACH PROTECTED BUILDING FOR SYSTEMS WITH LESS THAN 300 SPRINKLERS AND 12 SPARE SPRINKLERS FOR SYSTEMS WITH 300-1000 SPRINKLERS.
- NFPA 13 (2010) SEC. 9.3.6 PROVIDE RESTRAINT OF BRANCH LINES BY USING ONE OF THE FOLLOWING:
 - A. A LISTED SHIRT BRACE ASSEMBLY
 - B. A WRAPAROUND U-HOOK SATISFYING THE REQUIREMENTS OF 6-45.3, EXCEPTION NO. 3.
 - C. NO. 12, 440-LB WIRE INSTALLED AT LEAST 45 DEGREES FROM THE VERTICAL, FANE AND ANCHORED ON BOTH SIDE OF THE PIPE.
 - D. A HANGER NO LESS THAN 45 DEGREES FROM VERTICAL, INSTALLED WITHIN 6 INCHES OF THE VERTICAL, HANGER ARRANGED FOR RESTRAINT AGAINST UPWARD MOVEMENT, PROVIDED IT IS UTILIZED SUCH THAT L/R DOES NOT EXCEED 300, WHERE THE ROD SHALL EXTEND TO THE PIPE OR HAVE A SURGE CLIP INSTALLED.
- NFPA 12 (2010) SEC. 5-10.2 SPRINKLER FLOW SWITCHES SHALL BE TESTED BY IOR TO CONFIRM THAT WHEN THE INSPECTORS' TEST VALVE IS ACTIVATED AND ALARM WILL SOUND IN NO LESS THAN 20 SECONDS AND NOT MORE THAN 90 SECONDS.
- CBC (2007) SEC. 903.4.1 MAIN FIRE ALARM PANEL MONITORING AND WATER FLOW ALARM AND TROUBLE SIGNALS SHALL BE DISTINCTLY DIFFERENT AND SHALL BE AUTOMATICALLY TRANSMITTED TO A VA APPROVED CENTRAL STATION MONITORING COMPANY. SYSTEM SHALL BE FULLY INTEGRATED INTO VA'S EXISTING ALARM SYSTEM.
- NFPA 13 (2010) SEC. 6.9 FLOW SWITCHES SHALL BE CONNECTED TO A 10 INCH OUTSIDE ALARM BELL. AT THE FIRE SPRINKLER RISER, AN APPROVED IDENTIFICATION SIGN SHALL BE PROVIDED FOR THE OUTSIDE ALARM BELL. THE SIGN IS TO READ "SPRINKLER FIRE ALARM WHEN BELL RINGS CALL 911/FIRE DEPARTMENT".
- NFPA 13 (2010) SEC. 24.5 HYDRAULIC CALCULATION DESIGN DATA FLACARD IS TO BE ATTACHED TO THE FIRE SPRINKLER SYSTEM RISER.
- NFPA 13 (2010) SEC. 24.1 THE FIRE SPRINKLER CONTRACTOR (C-16) SHALL COMPLETE AND SIGN THE CONTRACTORS MATERIAL AND TEST CERTIFICATE FOR THE OVERHEAD FIRE SPRINKLER SYSTEM USING THE FORM IN FIGURE 24.1. THIS FORM SHALL BE GIVEN TO THE CONTRACTOR WHO WILL TURN IT IN FOR DEPARTMENT OF VETERANS AFFAIRS RECORDS.
- NFPA 13 (2010) SEC. 24.2.3.4 THE MAIN DRAIN VALVE SHALL BE OPENED AND REMAIN OPEN UNTIL THE SYSTEM PRESSURE STABILIZES. THE STATIC AND RESIDUAL PRESSURES SHALL BE RECORDED ON THE CONTRACTORS MATERIAL AND TEST CERTIFICATE. THE TEST IS TO BE WITNESSED BY THE INSPECTOR OF RECORD - IOR.
- SPRINKLER UPRIGHTS AND DROPS OVER 4 FEET LONG SHALL BE RESTRAINED TO PREVENT DAMAGE TO PIPING OR TO AND FROM ADJACENT BUILDING ELEMENTS.

CONSULTANTS:



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HMC PROJECT #1393002-000

Drawing Title
FIRE SPRINKLER SITE PLAN & NOTES

Approved: Project Director

Project Title
Mental Health Psychosocial Rehab Recovery and Health Care for Homeless Veteran Center

Location
2615 E. CLINTON AVE, FRESNO, CA 93703

Date
08/11/2014

Checked
SA

Drawn
AB

Project Number

570-217

Building Number

37

Drawing Number

FP001

Office of
Construction
and Facilities
Management:

